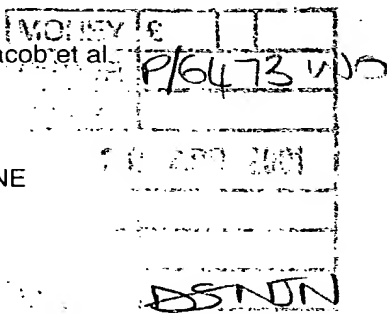


PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

NACHSHEN, Neil Jacob et al.
D. Young & Co.
21 New Fetter Lane
London EC4A 1DA
GRANDE BRETAGNE



PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

Date of mailing (day/month/year)	18.04.2001
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Applicant's or agent's file reference P006473WO NJN	IMPORTANT NOTIFICATION
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International application No. PCT/GB00/00785	International filing date (day/month/year) 03/03/2000	Priority date (day/month/year) 04/03/1999
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Applicant UNIVERSITY OF DUNDEE et al.
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1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

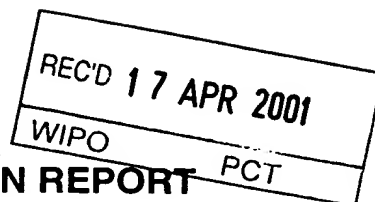
Name and mailing address of the IPEA/ European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Cardenas, C Tel. +31 70 340-3370
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



14

Applicant's or agent's file reference P006473WO NJN		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/00785	International filing date (day/month/year) 03/03/2000	Priority date (day/month/year) 04/03/1999	
International Patent Classification (IPC) or national classification and IPC G01N33/68			
Applicant UNIVERSITY OF DUNDEE et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 18/09/2000	Date of completion of this report 13.04.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Van Bohemen, C Telephone No. +31 70 340 2199 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/00785

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*:

Description, pages:

1-34 as originally filed

Claims, No.:

1-16 as originally filed

Drawings, sheets:

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/00785

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-6, 9, 13, 15, 16
	No:	Claims	7, 8, 10-12, 14
Inventive step (IS)	Yes:	Claims	1-6, 9, 13, 15, 16
	No:	Claims	7, 8, 10-12, 14
Industrial applicability (IA)	Yes:	Claims	1-16
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents, which have been cited as "X - documents" in the international search report:

D1: A. Banan et al. (1998). Protection against ethanol injury by prostaglandin in a human intestinal cell line: role of microtubules.
AMERICAN JOURNAL OF PHYSIOLOGY, 274 (1 Pt 1) G111-G121.

D2: R.D. Saunders et al. (1997). The Drosophila gene abnormal spindle encodes a novel microtubule-associated protein that associates with the polar regions of the mitotic spindle. JOURNAL OF CELL BIOLOGY, 137 (4) 881-90.

Claims 1-6, 13, 15 and 16

Claims 1-6 of the present application (PA) disclose a method for identifying a substance capable of disrupting microtubule organising centre (MTOC) integrity by contacting an Asp polypeptide with a substance under investigation in the presence of components required for MTOC formation and observing whether said substance disrupts MTOC integrity. None of the documents cited in the international search report or the description of the PA appear to disclose or suggest the above noted method. MTOC is part of the cellular spindle apparatus assembly, which is a potential target for tumour therapy. Hence, the benefit of the above noted method resides in the fact that it may help to identify substances, which are useful in anti-cancer therapies (cf. PA, page 1, lines 7-20). The processes of independent claims 15 and 16 incorporate the method of claims 1-6.

In view of the above, it would appear that the method of claims 1-6, the processes of claims 15 and 16 incorporating said method and the use in claim 13 of Asp polypeptides in the method of claims 1-6 should be recognized as novel and inventive and industrially applicable ex article 33(1) - (3) and Rule 64 PC

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/00785

Claim 7.

The PA does not meet the requirements of Article 33(1) - (3) PCT, because the subject-matter of independent claim 7 does not appear to be new in the sense of Article 33(1) and (3) and Rule 64 PCT.

Document D1 is identified as the closest prior art. D1 discloses a substance (i.e. ethanol), which is capable of disrupting microtubule organising centre (MTOC) integrity (cf. D1, abstract, lines 14-17). The substances of independent claim 7 does not differ from this at all. In consequence, it would appear that novelty ex Article 33(1) - (3) and Rule 64 PCT of independent claim 7 cannot be recognized.

For completeness, the applicant is also referred to box I.2 of the international search report, which is herein incorporated.

Claims 8, 9 and 14.

The PA does not meet the requirements of Article 33(1) - (3) PCT, because the subject-matter of independent claims 8 and 14 does not appear to be new in the sense of Article 33(1) and (3) and Rule 64 PCT.

Document D2 is identified as the closest prior art. By his own admission, the applicant confirms (cf. PA, page 1, last paragraph) that D2 discloses (cf. D2, abstract) substances capable of binding to an Asp polypeptide (i.e. actin and calmodulin). The substances of independent claims 8 and 14 does not differ from this at all. In consequence, it would appear that novelty ex Article 33(1) - (3) and Rule 64 PCT of independent claims 8 and 14 cannot be recognized. For completeness it is noted that the phrase "for use in a method of disrupting MTOC integrity" (cf. PA, claim 8 and claim 14, last part) is not regarded as a characterizing feature of the substance disclosed in said claims. If the applicant maintains that his substance differs from the ones disclosed in the prior art, e.g. D2, he would be required to indicate how said substances can always and unambiguously be distinguished from those disclosed in the prior art.

For completeness it is noted that the subject-matter of dependent claim 9 does not appear to be disclosed or suggested in any of the documents cited in the international

search report or the description of the PA.

Claims 10-12

Claims 10-12 of the PA all end with the phrase "for use in a method of disrupting MTOC integrity"; however, the latter is not regarded as a characterizing feature of the polypeptides (cf. PA, claim 10), the polynucleotides (cf. PA, claim 11) or the nucleic acid vectors (cf. PA, claim 12) disclosed in claims 10-12. Also, the polypeptide of claim 10 is defined in functional terms by the phrase "which fragment is not capable of restoring microtubule nucleation centre organizing activity"; however, clarity ex article 6 PCT could have been enhanced by simply defining said polypeptides in concrete terms, e.g. by disclosing their nomenclature or molecular structure. In consequence, as presently formulated, claims 10-12 appear to disclose a polypeptide fragment of an Asp polypeptide, a polynucleotide encoding said fragment and a nucleic acid vector comprising said polynucleotide, all of which have been disclosed in D2 (cf. D2, above).

In consequence, the PA does not meet the requirements of Article 33(1) - (3) PCT, because the subject-matter of independent claims 10-12 does not appear to be new in the sense of Article 33(1) and (3) and Rule 64 PCT.

Re Item VIII

Certain observations on the international application

1. Claims 4, 5 and 13 are not clear ex art. 6 PCT, because the phrase "fragment or derivative thereof" is not clear; the artisan would not automatically understand what is intended.

2. Although claims 15 and 16 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter. It would appear that conciseness and clarity ex art. 6 PCT could be enhanced by defining the relevant subject-matter in terms of a single independent claim, followed by dependent claims covering features which are merely optional.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/00785

3. Although claims 8 and 14 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter. It would appear that conciseness and clarity ex art. 6 PCT could be enhanced by defining the relevant subject-matter in terms of a single independent claim, followed by dependent claims covering features which are merely optional.

4. The references cited on page 1, last paragraph, page 5, third paragraph and page 8, last paragraph of the description of the PA are not recited in the reference list on page 34 of the PA; clarity ex article 6 PCT could be enhanced by amending this.

5. Regarding the clarity ex Art. 6 PCT of claim 7, the applicant is referred to the defects noted in box I.2 of the international search report, which is herein incorporated. In brief, the substance of claim 7 is defined in functional terms by the phrase "identified by the method of any one of claims 1 to 6"; however, clarity ex article 6 PCT could have been enhanced by simply defining said substance in concrete terms, e.g. by disclosing its nomenclature or molecular structure. Also, claim 7 relates to an unlimited number of possible substance; however, support and disclosure ex Art. 5 and Art. 6 PCT is only provided for a very small portion of the substances claimed.

6. The clarity ex Art. 6 PCT of claims 15 and 16 could have been enhanced by specifying the term "process" in the preamble of said claims; as presently formulated, the artisan would not automatically understand what the purpose of said "process" could be.